

Notice of Allowability

Application No.

10/083,886

Examiner

Huyen X. Vo

Applicant(s)

CHENG ET AL.

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/22/2005.
2. ☒ The allowed claim(s) is/are 1,3-19 and 21-36.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's representative, Ms. Jennifer Brooks on 1/23/2006. The application has been amended as follows:

Claims 2 and 20 have been cancelled.

Claims 3 and 5 have been amended to depend on claim 1.

Claims 21 and 23 have been amended to depend on claim 19.

Claims 1, 11, and 35 have been amended to further include on the last line place of "available." substitute -- available, wherein a plurality of said audio packets are altered by an amount less than said perceptually tolerable distortion, each alteration utilizing information representative of a different said audio packet than the audio packet being altered. --

Claim 36 has been amended to further include on the last line place of "packet." substitute -- packet, wherein a plurality of said audio packets are altered by an amount

less than said perceptually tolerable distortion, each alteration utilizing information representative of a different said audio packet than the audio packet being altered. --

Claims 19 and 27 have been amended to further include on the last line place of "available." substitute – available, configuring to alter a plurality of said audio packets by an amount within said perceptually tolerable distortion, and for each said alteration, utilizing information representative of a different said audio packet than the audio packet being altered. --

Allowable Subject Matter

2. Claims 1, 3-19, and 21-36 are allowed over prior art of record. The following is an examiner's statement of reasons for allowance: Araki (US 6725192) discloses an audio coding and quantization method, each of spectral subband components of an audio signal is quantized whereby a quantizer step size for a related one of spectral subbands is obtained from a bit allocation. The bit allocation is controlled for each subband by using a psychoacoustic model. During the controlling, a quantization of frequency domain values of a related one of blocks is calculated through a first control loop, the first control loop being repeated until a bit rate requirement is met. A quantization noise for each subband, produced within the first control loop, is calculated through a second control loop, the second control loop being repeated until a masking requirement is met. The first control loop and the second control loop are alternately performed for the related block such that both the requirements are met, and, thereafter,

Art Unit: 2655

an output vector of quantized frequency domain values is finally produced (*referring to reference*). Edler et al. (US 6778953) teach a method for representing the masked threshold in a perceptual audio coder, using line spectral frequencies (LSF) or another representation for linear prediction (LP) coefficients. The present invention calculates LP coefficients for the masked threshold using known LPC analysis techniques. In one embodiment, the masked thresholds are optionally transformed to a non-linear frequency scale suitable for auditory properties. The LP coefficients are converted to line spectral frequencies or a similar representation in which they can be quantized for transmission. In one implementation, the masked threshold is transmitted only if the masked threshold is significantly different from the previous masked threshold. In between each transmitted masked threshold, the masked threshold is approximated using interpolation schemes. The present invention decides which masked thresholds to transmit based on the change of consecutive masked thresholds, as opposed to the variation of short-term spectra (*referring to reference*). Both Araki and Edler et al. fail to specifically disclose the step of altering said audio packets by an amount less than said perceptually tolerable distortion, wherein each alteration utilizing information representative of a different said audio packet than the audio packet being altered. Furthermore, it would have not been obvious to one of ordinary skill in the art at the time of invention to modify Araki and/or Edler et al. in order to obtain the claimed invention. Therefore, claims 1, 3-19, and 21-36 are allowed over prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

1/30/2006

HXV

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER